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Notice of Allowability	Application No.	Applicant(s)	
	10/621,502	MATSUTANI ET AL.	
	Examiner	Art Unit	
	Shamim Ahmed	1765	

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/25/05.
2. ☒ The allowed claim(s) is/are 1-13 and 18-21.
3. ☒ The drawings filed on 17 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

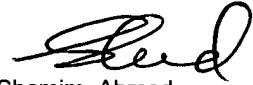
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>7/12/05</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |


Shamim Ahmed
Primary Examiner
Art Unit: 1765

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph W. price on 7/12/05.

The application has been amended as follows:

IN THE CLAIMS:

In claim 1, line 6, before "-supplying", replace the word "material" with "fluid" and in between " a second" and "material", insert "fluid";

In claim 1, line 7, in between " second" and "material", insert "fluid;

In claim 1, line 8, in between " the second" and "material", insert "fluid;

In claim 1, line 9, in between " the second" and "material", insert "fluid .

In claim 2, line 2, in between " the second" and "material", insert "fluid and

In claim 2, line 3, in between " the second" and "material", insert "fluid";

In claim 4, line 3, in between " second" and "material", insert "fluid";

In claim 5, line 3, in between " the second" and "material", insert "fluid";

Art Unit: 1765

In claim 6, line 2, before “-supplying”, replace the word “material” with “ fluid”;

In claim 9, line 2, in between “ the second” and “material”, insert “fluid”; and

In claim 9, line 4, in between “ the second” and “material”, insert “fluid”;

In claim 10, line 4, before “-supplying”, replace the word “material” with “ fluid”;

2. The following is an examiner’s statement of reasons for allowance: The prior art does not teach a process of forming a contact hole in an insulating film beside a conductive part including the steps of supplying a second material into the contact hole, wherein the supplied second material having a reactive property with the first material of the conductive part and performing an inspection step of inspecting for evidence of a reaction by the conductive part with the second material as the context of claim 1.

3. The prior art does not teach a process including the steps of applying a fluid which is non-reactive of the exposed layers and being reactive to one or more layers that are not exposed and detecting a fluid reaction with one of more of materials to determine a flaw in the fabrication of the electronic device as the context of claim 18.

4. The closest prior art Nakagawa (6,555,922) discloses a process for detecting short-circuiting, wherein connection pad (12) is used for the detection (col.3, lines 49-63).

5. Noda (6,620,637) discloses a process for detecting a defective area such as metal short-circuit by detecting heat that is generated at the defective location by using a Raman spectrum shift (col.3, lines 8-22).

Both Noda and Nakagawa fail to teach the defect can be detected by performing an inspection step of inspecting for evidence of a reaction between the applied second material such a fluid and the conductive part as claimed.

6. Kikuchi (6,204,075) disclose a process of detecting defects in a wiring process, wherein electron beam is irradiated and scanned by using SEM onto the surface for detecting defects (short circuit) of wiring (col.4, lines 26-43, col.5, lines 54-64 and col.6, lines 52-col.7, line10).

Kikuchi fails to teach a process including the steps of supplying a fluid material to the contact hole, wherein the fluid is reactive to the first material of the conductive part and also does not teach an inspection step for inspecting an evidence of a reaction between the conductive and the second fluid material.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 1765

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (571) 272-1457. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shamim Ahmed
Primary Examiner
Art Unit 1765

SA
July 6, 2005